

EXHIBIT 1



Neil P. Daugherty
Certified Fire Investigator
License #11-2602

P. O. BOX 67 TROUTVILLE, VA 24175
(540) 966-3705 FAX: (540) 966-3591

March 12, 2020

Mark D. Loftis, Esquire
WOODS ROGERS, Attorneys at Law
10 South Jefferson St., Suite.1400
Roanoke, VA 24011
LOFTIS@woodsrogers.com

Matter: American Electric Power / Electro Finishing Inc.
Client: American Electric Power
Claim #: C20180395220
Date of Loss: June 3, 2018 at 3:29 p.m.
Loss Location: 2817 West Lee Highway
Rural Retreat, VA 24368
Case #: 7 :19-cv-380
A.R.C. #: 1811056-C

Dear Mr. Loftis:

The assignment was received on November 30, 2018, from Risk Manager, Lee Ross with American Electric Power. Specific instructions were to conduct an origin and cause investigation of this loss. The site investigation was conducted on December 19, 2018. The systematic approach was used to assemble evidence sufficient to render an opinion using the scientific method of data collection to eliminate expectation [NFPA 921 4.3.9] and conformation bias [NFPA 921 4.3.10].

INVESTIGATIVE SUMMARY

After reviewing **John Moore's** abbreviated (interim dated 6/15/18) report (which states that it is "not an expert witness disclosure"), and full report (dated 2/11/20), along with my review and analysis of the other information set forth below, it is my opinion that:

◇ The area of origin for this fire is in the SW rear of the shop.

- ◇ The cause of this fire is undetermined (because, as detailed below, I was unable to conduct an independent investigation because the fire site had been cleared and razed and no evidence was preserved, and the information provided by Mr. Moore in his report is inadequate for me to form a scientifically-valid opinion as to the cause of the fire).
- ◇ A review of the supplied information confirmed these opinions.
- ◇ There was no field evidence collected and therefore none was available to inspect, examine or test.
- ◇ Mr. Moore's report states conclusions that are mutually contradictory, and fails to address numerous facts that are inconsistent with the stated conclusions.
- ◇ This report will focus primarily on **John Moore's** report (dated 6/15/18), (20) photographs, CV, interview and full report (dated 2/11/20).

REVIEWED MATERIAL

The following is a list of supplied information, but may not be a complete list of sources used to render this opinion:

- EFI Global Report (abbreviated) with (20) photographs
- EFI Global CV of John "Roc " Moore
- (135) Color Photographs (initially reviewed on Mr. Moore's laptop at the scene, then later produced along with his full report) taken by John Moore (pages #43-#177)
- American Electric Power "Outage & Usage Flow Chart"
- Wythe County CAD Report
- American Electric Power Energy Delivery 2014 - (2) sections
- Letter of Agreement
- Plaintiff's Answers & Objections to Defendant's Interrogatories
- Plaintiff's Responses & Objections to Defendant's First Request for Production of Documents
- Defendants Answers & Objections to Plaintiff's Interrogatories
- Defendant's Responses & Objections to Plaintiff's first Request for Production of Documents
- NFPA 921 (2017 Edition)
- Report Enclosures:
 1. (8) Color Photographs of the razed/cleared fire scene

2. Rural Retreat Vol. Fire Dept. Report (dated 6/3/18)
3. Business Card of John "Roc" Moore
- EFI Global Report (full) dated (2/11/20) with (16) Photographs
- EFI Global Diagram
- Final Report Enclosures:
 1. Site plan showing photo location as indicated in NFPA *921 (2017 Edition)*.4.2(a)
 2. Photo Explanation Sheet

SUBJECTS

1. Daugherty, Neil P. -IAAI-C.F.I., A.R.C. Investigations, Inc. (AEP).
2. Evans, Dave -Fire Chief, Rural Retreat Vol. Fire Dept.
3. Moore, John "Roc" -CFEI, (NAFI), EFI Global.
4. Fortuner, Keith -Crew Supervisor, American Electric Power.

COMPLEX

The complex was a multi-occupancy commercial structure (apartment, office, & shop) occupied by the owner. According to photographs and information provided by the owner, the structure was of wood framed construction with an exterior covering of wood siding. The approximately 34 yr. old, single-level structure was supported by a concrete/slab foundation encompassing the main level and was sheltered beneath a joist/trussed roof assembly covered with metal. The structure housed (4) rooms with (1) bath; there was no basement or garage.

The structure, located in a business community of Rural Retreat, in Wythe County, VA, appeared in a moderately-kept condition before the fire based on photographs. It faced a graveled driveway and in the rear was a yard extending to another commercial building. There were no indications of recent repairs or renovations. There was no evidence at the scene to indicate the property was for sale. Based on photographs the housekeeping appeared "cluttered" before this loss occurred. There are structures located within approximately 25 ft. There is no exposure fire damage to the adjacent dwellings or properties.

The Rural Retreat Vol. Fire Department, located within approximately (2) miles, provides the fire protection for this district. The electricity, provided by Appalachian Power Company d/b/a American Electric Power, was in service before the loss. The propane gas was provided by the owner. The early-warning detection-devices (smoke detectors) were not located in the shop area. TCS Security monitored the (1) smoke detector located in the office.

SITE EXAMINATION

The site examination was conducted on December 19, 2018, at 9:45 a.m. The photographs were taken along with the completion of the field report. **John Moore** was present during this examination and interview. There was no care or control of this loss site nor its evidence. The site had been completely razed/cleared (spoiliated) prior to this examination. These alterations adversely affected my ability to determine origin and cause.

The scene was open/unsecured upon my arrival.

The interior inspection was not possible because no appliances, furnishings, inventory or equipment normally found in an occupied business were present. Mr. Moore confirmed to me that he had not preserved any evidence from the fire scene.

I did not locate any evidence of the structure at this site. However, the remaining American Electric Power equipment was photographed and documented.

The burn patterns, level of burning, fire travel, and the degree of destruction could not be established at this loss site because the site had been completely razed/cleared and no evidence remained.

The structure's electrical system including the exterior meter base, mast, and triplex overhead service drop located in the rear of the complex was destroyed during the razing/clearing of the loss site. The structure's electrical system was not eliminated as a possible ignition source (branch circuits, sub-panels, & appliances were totally molested/destroyed).

There were no remains of the natural/propane gas lines, vessels, or heaters at the site.

EVIDENCE

There was no evidence to examine, collect, secure or test at this loss site.

INVESTIGATION

The fire was reported on Sunday, June 3, 2018, at approximately 3:29 p.m. A neighbor discovered this fire and reported it to the Wythe County Emergency Operations Center.

The Rural Retreat Vol. Fire Dept. via their paging system received the alarm. The first arriving fire department personnel observed smoke & fire showing from the rear & roof

of the structure. The wind speed was moderate from the SW. The building was open/unsecured upon their arrival requiring no forced entry into the structure through its entrances. The fire ground commander in charge of the incident, Fire Chief, **Dave Evans**, did not request an investigator to determine the origin and cause of this fire. The fire was concentrated to the rear shop area and was easily extinguished.

*The NFPA *921 (2017 Edition)* "Guide for Fire and Explosion Investigations" is the recognized treatise throughout the industry that Fire Investigators follow during their complete site examination and reporting, and I attempted to follow that methodology to the extent it was possible to do so.

I went to the loss site on December 19, 2018 and met with **John Moore**. The site had been completely razed (cleared) and the vacant lot was photographed. **Mr. Moore** allowed me to glance through (135) photographs he had taken (he pulled these photographs up on his laptop computer and flipped through them, but did not provide me with copies at that time). **Mr. Moore** advised that there was no "evidence collected or secured from this site". He said that he did not know who supplied the natural/propane gas to this loss site. He did not know the length of the Triplex service drop between the point of attachment and the utility pole. He related that no arc mapping was conducted during his 1st visit to the site and that no EFI electrical engineer (readily available within EFI) was requested to evaluate this scene.

*NFPA *921 (2017 Edition)* Chapter (4) Basic Methodology addresses the fire investigator's review/examination of the incident site. There is no reporting format in this document, however, it states in Section 4.4.3.3 "The use of previously collected data from a properly documented scene can be used successfully in an analysis of the incident to reach valid conclusions through the appropriate use of the scientific method." I therefore attempted to determine whether I could reach scientifically valid conclusions based on the site documentation available to me.

I reviewed **John Moore's** interim report (dated 6/15/2018) and concluded that the scientific method set forth in NFPA *921 (2017 Edition)* was not followed or used. There are no facts set out to support the opinions contained in the report. **Mr. Moore** also failed to consider and rule out alternative causes, or to test his hypotheses in any way. In fact, based on my review, the limited number of photographs submitted as a part of his interim report totally disprove Mr. Moore's untested hypothesis.

The investigation revealed that it was approximately 1.5 hours from the time the fire started until the American Electric Power service drop was de-energized. Had the service drop been in contact with the metal roof so that it was arcing/popping & burning for this length of time, the entire length of the service drop would have been consumed (carbonized) and the aluminum roof melted beneath the conductors. **Mr. Moore's** own photographs show that this was not the case, nor does his report analyze or explain how

the electrical conductor could have been arcing and burning against the roof for this length of time without consuming itself.

The photographs of the load center clearly show electrical activity above and within service entrance panel. This could not happen (arc mapping) if the failure was within the Triplex service drop on the roof, as hypothesized by **Mr. Moore**.

An interview with **Keith Fortuner** (AEP Crew Supervisor), was conducted at the AEP service center. He stated that when he arrived at the loss site, the fire was already extinguished. There were firefighters on the roof; he advised them to get away from the service drop (for safety reasons) as it was still energized. He related that both the Fire Chief and business owner stated that the fire started from sparks from an overheated buffer.

A telephone interview was conducted with Fire Chief, **David Evans** on December 28, 2018. He advised that he did not see/hear any arcing or popping coming from the roof during his investigative walk around the building (when he arrived). He advised that the fire started from sparks from an overheated buffer. Also, he would e-mail the fire report with these stated findings. (He subsequently provided a copy of the report, which is attached.)

A review of **John "Roc" Moore's** CV revealed that he has little to no fire investigative experience in a Fire Marshal's Division. He has no "in-service" training within the past (4) years. He has not testified/qualified as an expert witness in any federal/state courts or depositions. The EFI Global report and business card has no license number which is required by the VA Department of Criminal Justice Services.

Mr. Moore's report fails to address or analyze the most likely alternative cause of the fire, and contains no information or analysis that contradicts or rules out the cause stated by the Fire Department and the witness interviews. Indeed, under the methodology set out in NFPA 921 Mr. Moore was required to consider other potential ignition sources and rule them out. [NFPA 921 4.3 Use of Scientific Method] He was also required to test his hypothesis. [NFPA 921 4.3.6] There is no indication in his report that he did either.

EFI GLOBAL FULL REPORT REVIEW -(2/11/2020)

Summary of Conclusions –

I will testify that the evidence I have been able to review is consistent with the electrical service drop having failed late into this fire loss and as a result (not a cause) of this fire. Photographs, witness statements, time frame, and the local Fire Department's report all support this conclusion.

There are only (4) "Classifications of Fire Cause" listed in *NFPA 921* (2017 Edition) and they are as follows:

20.1.1 Accidental

20.1.2 Natural

20.1.3 Incendiary

20.1.4 Undetermined

None of these are mentioned in **John Moore's** report.

**NFPA 921* (2017 Edition -Section 19.6.5.2) "Ignition Source vs Fire Cause."

The investigator should remember that the cause of a fire is defined as "The circumstances, conditions, or agencies that bring together a fuel, ignition source and oxidizer (such as air or oxygen) resulting in a fire or combustion explosion." The identification of an ignition source and a 1st fuel is not sufficient to determine a cause. Determining a fire cause and ignition sequence requires that any proposed hypothesis include consideration of the relationship between the competency of the ignition source and 1st fuel ignited. The investigator should determine if the proposed ignition source is a competent ignition source for the proposed 1st fuel ignited.

There are (2) origins identified in **John Moore's** report that are not indicated on his diagram; only an area of origin of approximately 45 sq. ft. He listed structural components and combustible items as the 1st fuel ignited. ♦The obvious question is: **What** structural components and **What** combustible items? Then he states, "the actual mechanism of electrical failure was not determined".

♦**Mr. Moore** has made assumptions, in the field and in his reports, of electrical issues, of which he has little to no education, training, or experience. I have detailed and discussed those assumptions, along with **Mr. Moore's** failure to follow the procedures of *NFPA 921* (2017 Edition), below. (The headings correspond to the heading section where the statement is contained in **Mr. Moore's** report.)

Background -

"**Mr. Tim Litz** was working on buffing a gun action on one of the buffing machines and set the action aside to let cool." Yet Mr. Moore did not photograph the gun action so there is no way to determine color (for temperature) or its location in the shop (nearby combustibles). (**NFPA 921* (2017 Edition -Section 12.3.5.1) "Responsibility.") This potential source -which the responding fire department determined to be the cause of the fire- was not eliminated in **Mr. Moore's** report.

Procedures -

- "Potential sources of ignition on the interior and exterior West side of the shop were evaluated".
- The report does not explain what these "potential sources of ignition" were, nor is it possible to make any determination from the photographs provided.

On December 28, 2018, a joint scene exam was attempted with Neil Daugherty (A.R.C. Investigations). However, "the building had been razed by the insured and was not available to be evaluated".

**NFPA 921 (2017 Edition -Section 12.3.5) "Spoliation of Evidence."*

Spoliation of evidence refers to the loss, destruction, or material alteration of an object or document that is evidence or potential evidence in a legal proceeding by one who has the responsibility for its preservation. Spoliation of evidence may occur when the movement, change, or destruction of evidence, or the alteration of the scene significantly impairs the opportunity of other interested parties to obtain the same evidentiary value from the evidence, as did any prior investigator.

**NFPA 921 (2017 Edition -Section 12.3.5.1) "Responsibility."*

It is the responsibility of the investigator (or anyone who handles or examines evidence) to avoid spoliation of evidence, and the scope of that responsibility varies according to such factors as the investigator's jurisdiction, whether he or she is a public official or private sector investigator, whether criminal conduct is indicated, and applicable laws and regulations.

Data Collection -

"The front of the structure was referenced to face North (Figure #1)". This photograph depicts less than 50% of the front of the structure.

"The electrical load center and electrical distribution panel were positioned on the interior South wall of the shop with an additional sub-panel located in the central West wall of the shop." ♦ **The** electrical load center and electrical distribution panel are in fact one and the same.

"The exterior survey revealed extensive damage to the electrical service drop on the roof above the South side of the shop area, which was not consistent with exposure interior fire event (Photos 2,3)." ♦ **These** photos, in fact, show minimal damage to the triplex in several locations and the damage is consistent with the fire ventilation through the rear of the building intensified by the "3 mph. wind" from the West.

"The fire vented to the exterior of the structure through the roof and the SW corner of the shop." ♦ **This** is where the most extensive damage is to the roof system, but the photographs do not show any "venting" or movement through the exterior of the structure.

"The electrical service drop was located on the roof approximately 6 ft. to the North and not in the ventilation pathway of the fire (Photo #4)." ♦ **This** is contradicted by the wind direction during the post flash-over stage (open/free burning) of the fire.

"The most extensive thermal damage was noted on the West wall of the shop just above the electrical sub-panel progressing in a southern direction toward the SW corner." ♦ **The** area of origin (approximately 45 sq. ft.) identified by **Mr. Moore** does not include the sub-panel.

"The loss of mass to the interior wood siding material near the ceiling level in this area provided clear directional patterns of fire movement from the west wall to the roof and exterior southwest corner of the shop (Photo #6)." ♦ **This** photo (#6) clearly indicates fire travel is not from the roof downwards and is from the Southwest corner (outside the area of origin on his diagram).

Evidence -

"No evidence was retained during this investigation." **Spoliation/Responsibility** (previously mentioned).

Weather Information -

"The temperature was 85° and humidity 52%. Weather conditions did not appear to be a factor in this incident." ♦ **Mr. Moore** did not consider the 3 mph. wind from the West pushing the venting fire and thermal column parallel to the triplex drop (within 6 ft.) during the open/free-burning stage of this fire.

Fire Official's Report -

"Rural Retreat Fire Chief, David Evens determined the fire to be the result of sparks from operating equipment and was classified as accidental in nature." ♦ **This** has not been disputed or rebutted in **Mr. Moore's** report. In fact, based on his report, it does not appear that **Mr. Moore** even considered this potential cause. His report does not describe any examination of the involved equipment, or point to any facts that would rule out the cause identified by the fire department.

Analysis -

"As fire develops, the production of heat and smoke create various fire effects, including mass loss, charring, deformation, lines of demarcation, arc sites on the electrical wiring, and many others." ♦ **Mr. Moore** stated, at the site, that no electrical arc mapping was conducted, and he did not request an electrical engineer to complete an examination. Without performing arc mapping, there is no basis for **Mr. Moore** to conclude that sparking from the service drop contacting the metal roof could have caused this fire (as opposed to the service drop having melted from the conducted/radiant heat from the fire within the building and then contacting the metal roof while still energized).

**NFPA 921 (2017 Edition -Section 9.11.7) "ARC Mapping Procedure."*

Section 9.11.7.2, "An electrical engineer is not required to perform arc mapping. Arc mapping is fundamentally pattern recognition, which fire investigators routinely perform in other areas of fire investigation."

"There were several isolated areas of complete consumption of the wood slat roofing material with thermal damage to the standing seam metal panels that directly correspond to arc fault separation points of the electrical service drop (Photos #7-9)." ♦ **These** photos in fact clearly show minimal charring in these areas to the slatted sheathing with no complete consumption.

"The most severe thermal damage to the metal roof surface due to intense electrical activity from an arcing event involving the electrical service drop was directly above the location where the fixed structural wiring circuit supplying the electrical sub-panel on the West wall of the shop was located and has been identified as the area of origin (Photo #10)." ♦ **The** most severe thermal damage to the metal roof surface is in fact in the SW corner of the shop. **Mr. Moore's** photo (page #168) clearly shows the most extensive damage to the metal roof is remote from the triplex.

Fire Cause Analysis -

- "1. Unspecified failure involving the electrical sub-panel.
- 2. Arcing event involving the electrical service drop on the roof.
- 3. Unspecified failure involving the fixed structural wiring circuit supplying the electrical sub-panel."

♦ **The** word (statements #1 & #3), "Unspecified" is the same as Undetermined in the thesaurus. The arcing event (statement #2) was the result of arcing through char. As noted above, the electrical service drop was still energized when American Electric Power's servicer arrived on the scene approximately -1.5 hours- after the fire began. Had the service drop been in contact with the metal roof so that it was arcing/popping and burning for this length of time, the entire length of the service drop would have been consumed (carbonized) and the aluminum roof melted beneath the conductors. The fact

that sections of the service drop were still present on the roof strongly indicates that the fire (or heat from the fire) eventually caused the triplex to sag, droop, and expand touching the metal roof and its screws, then arced in several small areas burning through the conductor.

**NFPA 921* (2017 Edition -Section 9.10.3) "Arcing through a Carbonized Path due to Thermal Means (Arcing through Char)."

Insulation on conductors, when exposed to direct flame or radiant heat, maybe charred before being melted. The char is conductive enough to allow sporadic arcing through the char. The arcing can leave surface melting at spots or can melt through the conductor, depending on the duration and repetition of the arcing. There often will be multiple points of arcing. Several inches of the conductor can be destroyed, either by melting or severing of several small segments.

"There was clear evidence noted on the standing seam metal roof panels of previous contact between the insulated electrical service drop and the metal seams of the roof panels (photo #14)." ♦ **This** shiny area on the roof seam is a result of the (2) low voltage utility circuits (phone/computer cables) rubbing the smoke off the seam post fire. Notably, the referenced photo is not the electrical service drop, but lines belonging to other utilities. The photographed "rub marks" did not occur from the electrical service drop.

"After the service line came in contact with metal roof, the following electrical ignition scenarios may have ensued:

- "The main overcurrent breaker appeared to have exploded, and intense electrical activity was noted on the remaining electrical components in the top section of the panel (Photos #12-13). Due to the lack of available material for inspection a conclusive analysis of the main over-current breaker was not possible." ♦ **The** main over-current device would have been located in the load center remote from the sub-panel. These photographs clearly show that the sub-panel cover had no unused openings for a main breaker. A closer review of these photos clearly show the aluminum conductors mounted to the bus bar in the sub-panel. There was never a main over-current breaker in this panel. Additionally, **Mr. Moore's** use of the phrase "may have ensued" demonstrates that he is engaging in speculation unsupported by any evidence.
- "There is clear evidence of arcing activity on the mounting screws for the standing seam metal roof panels (Photo #15)." ♦ **This** is a result of (Arcing through char) as explained above.

- "Severe arc damage was noted on the mounted screws and metal surface on the central South side of the roof in the area between the apartment & shop of the building (Photo #16)." ♦**This** is a result of (Arcing through char) as explained above.
- "The circuit was incomplete and melted, preventing a conclusive analysis as to the method of failure". ♦**This** means that **Mr. Moore** cannot make a determination.

"There was no evidence of discarded smoking material, candles, multiple points of origin, irregularly shaped burn patterns, trailers, or any other evidence of the use of ignitable liquids in the causation or acceleration of this fire." ♦**Mr. Moore** has indicated throughout his report multiple origins and (1) of the ignition sources, so he has not eliminated multiple points of origin. As to "irregular shaped burn patterns & trailers and the use of ignitable liquids", these could not be eliminated because he did not excavate, clear, overhaul the floor or sift any debris.

CONCLUSION

The area of origin for this fire is in the SW corner of the shop; as outlined in *NFPA 921: Chapter 6 "Fire Patterns" and Chapter 18 "Origin Determination"*. The following facts support this opinion:

1. The burn patterns (page #51).
2. The level of burning (page #70, #136, #137)
3. The depth of burning (page #104).
4. The fire travel patterns (page #46, #168).
5. The concentrated fire damage (page #167).

The cause of this fire is undetermined; as outlined in *NFPA 921: Chapter 19 "Fire Cause Determination" and Chapter 20 "Classification of Fire Cause"*. The following facts support this opinion:

1. Burn patterns did not establish a point of origin (in the report).
2. Could not identify an ignition source (in the report).
3. Could not eliminate the natural/propane gas equipment.
4. Could not eliminate structure's electrical equipment/components/appliances.

5. Could not eliminate the structure's multiple heating appliances.
6. The elimination of AEP's electrical service equipment as a potential cause.
7. All witness statements indicate that the fire originated from the buffer.
8. Time frame -1.5 hours from origination to the de-energized service drop.
9. Inconsistencies throughout **Mr. Moore's** 1st report.
10. Owners interview:
 - 1) **Mr. Litz** did not see/hear arcing/popping coming from the roof.
 - 2) **Mr. Litz** did not mention any dimming/brightening of lights in warehouse.
 - 3) **Mr. Litz** thought sparks from the buffer caused this fire and reported this to the fire department personnel and to the American Electric Power servicer.
11. Fire Chief's interview:
 - 1) **Dave Evans** stated sparks from an overheated equipment caused fire.
 - 2) Rural Retreat Volunteer Fire Department Report -sparks from overheated equipment caused fire.
12. Inconsistencies throughout **Mr. Moore's** 2nd (full) report:
 - The exaggeration of the exploding main over-current device in sub-panel.
 - Stating unqualified "electrical issues" throughout his report.
 - No points of origin identified or indicated on his diagram.
 - No ignition source identified or indicated on his diagram.

The damage to the triplex drop occurred late into the progression of this fire. The expanse (length) of the triplex drop located above the roof is unknown. The ambient temperature 85°, the flash-over fire beneath the metal roof, and the venting fire with its thermal column within 6 ft. of the triplex caused the triplex to expand, stretch and sag. This allowed the triplex drop to come within close proximity of the metal roof and its mounting screws causing arcs in multiple spots. The minimal damage to the metal roof and mostly undamaged remains of the triplex support this theory (page #168).

COMPENSATION

I am being compensated at my standard hourly rate of \$130.00 for all of my work in this case.

COMMENTS

Instructions on this file have been completed; therefore, it is being placed in an inactive status. I do not anticipate any additional investigative activity; however, it can easily be reopened upon your request. If you have any questions, comments, or further instructions, please do not hesitate to contact me.

Neil P. Daugherty,

A handwritten signature in black ink, appearing to read 'Neil P. Daugherty', with a long horizontal line extending to the right.

Certified Fire Investigator

Troutville, Virginia

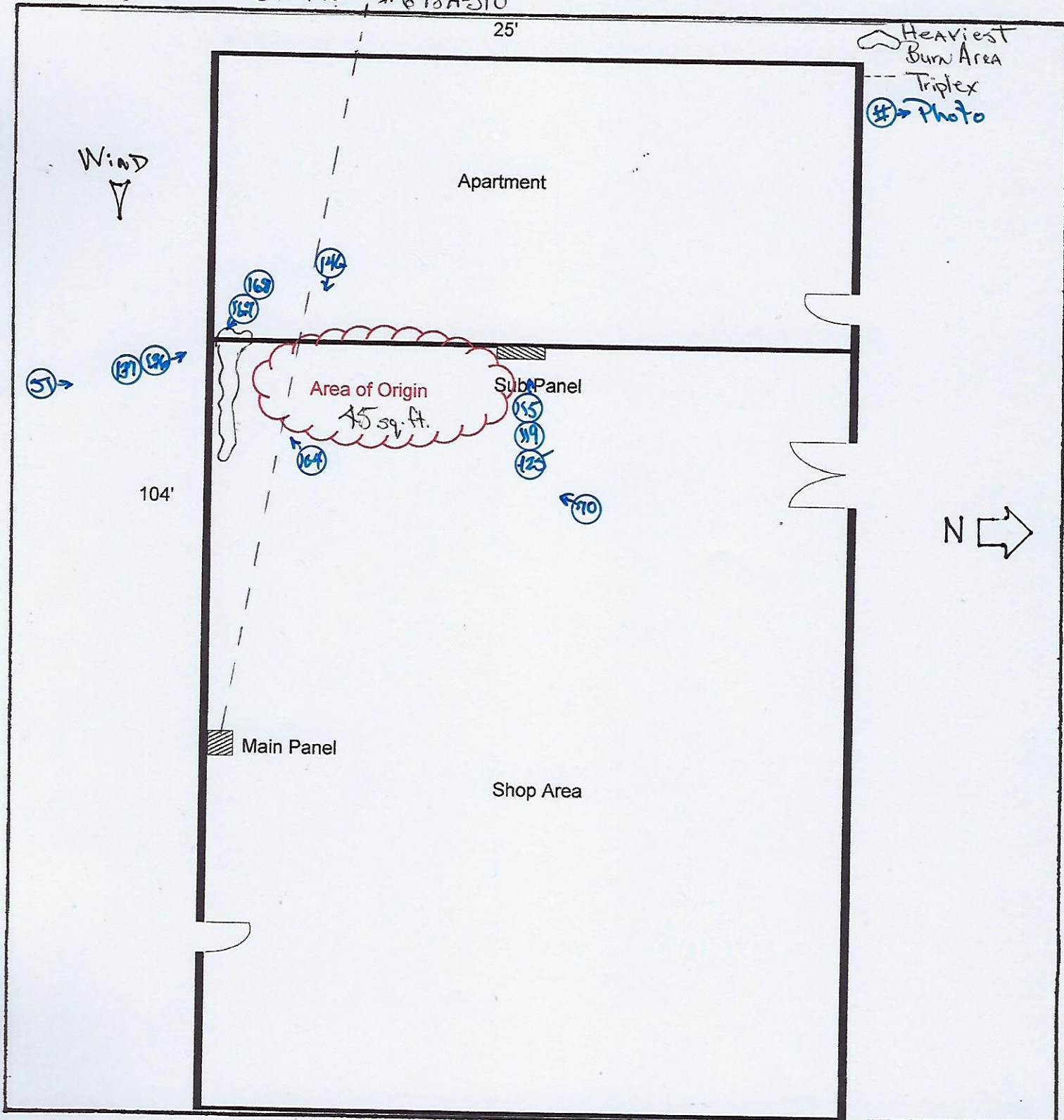
(540) 966-3705

NPD/sgd

DIAGRAM SHEET

ENCLOSURE 1

Name AEP / Electro Finishing, Inc Location Rural Retreat, VA No. 1811056-C
 (2) T-Pole 0#678A-310



Prepared by Neil Doughty Date March 12, 2020 Scale None

A.R.C.#1811056-C

3-12-20

Insured: AEP – ELECTRO FINISHING, INC.

PHOTOGRAPH EXPLANATION SHEET

The following (11) color photographs were taken by John Moore at the time of his examination to document observations. Nine of these photographs were not used in his report due to the fact that they dispute his findings. The photograph identification numbers used reference the pages from the pdf file provided to me, which contained Mr. Moore's 42-page report (including Attachments) with his 135 photographs appended starting at page 43.

- 51. Exterior (rear) -most extensive damage at the SW corner of the shop.
- 70. Shop (rear) -most extensive damage & fire travel from SW corner.
- 104. Shop (rear) -most extensive damage & deepest char in SW corner.
- 115. Shop -no penetration for main breaker & low oxidation on panel cover.
- 119. Shop -Aluminum conductors attached to buss bar (no main breaker).
- 125. Shop -Heaviest oxidation in base of panel (consistent w/pre-fire moisture).
- 136. Exterior (rear) -Most extensive damage to roof system (sheathing/joist/siding).
- 137. Exterior (rear) -Aluminum conductor remains in SW corner of the shop.
- 146. Roof -Numerous burn patterns (between slatted sheathing) remote from triplex.
- 167. Roof (SW corner of the shop) -Left to right fire travel on (4x4) studding, heaviest charring & oxidation on left side of (4x4) studding, & pitting with metal transfer on nail.
- 168. Roof -Most severe intense heat damage to metal roofing remote from triplex.

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Page 125





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